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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/763,071	01/21/2004	Todd Kaplan	B-4850 620354-1	3706
36716	7590	05/02/2005	EXAMINER	
LADAS & PARRY 5670 WILSHIRE BOULEVARD, SUITE 2100 LOS ANGELES, CA 90036-5679			WAMSLEY, PATRICK G	
			ART UNIT	PAPER NUMBER
			2819	

DATE MAILED: 05/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/763,071

Applicant(s)

KAPLAN, TODD

Examiner

Patrick G. Wamsley

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-13 is/are allowed.
- 6) ☒ Claim(s) 14-16 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>07/15/2004</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Specification

The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 14, 15, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Admitted Prior Art, hereafter APA, in view of U.S. Patent 6,597,303 to Cosand, hereafter Cosand.

As depicted in Figure 1, APA discloses a non-return-to-zero [Page 1, ¶0003, line 1] digital-to-analog converter, hereafter DAC, comprising a single current source [40] having at least a first digital input [IN / INX]. The output of APA's DAC is an analog current [Page 1, ¶0004, line 7]. Unlike claim 14, APA does not determine when routing of the current is allowed to change.

Cosand discloses the use of a clock signal [CLK] to determine when the routing of current between the current source and the output [OUT] is allowed to change. At the time of the invention, it would have been obvious to one of ordinary skill in the art to have applied Cosand's teachings to APA's DAC. The motivation would have been to reduce power dissipation [col. 4, lines 63-64].

For claim 15, the Cosand / APA combination would have used Cosand's CLK signal, a clock signal, as a second input.

For claim 16, as described in lines 16-24 of col. 2 in Cosand, the combination would have operated as a transconductor, converting an input voltage difference at the bases of transistors Q1 and Q2 into a difference in collector currents. Thus, Cosand / APA would have converted a digital input voltage into an analog output current.

Allowable Subject Matter

Claims 1-13 are allowed.

The following is a statement of reasons for the indication of allowable subject matter: the references of record neither reveal nor render obvious a DAC having a clock circuit coupled to a current generator acting as a switch between a bistable circuit and an input / output circuit in the recited manner.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent 6,788,229 to Wittlinger describes a DAC clocking control circuit. U.S. Patent 6,507,295 to Volk couples a DAC current source [602] to a current switch [604]. U.S. Patent 6,346,899 to Hadidi describes a DAC using transconductors, converting an input voltage into an output current. U.S. Patent 6,191,719 to Bult et al reduces ringing in a DAC relative to clock pulses. U.S. Patent 6,124,817 to Ho describes a noise-equalized DAC. U.S. Patent 5,625,360 to Garrity et al provides a switchable current source [41] for a DAC. U.S. Patent 5,450,084 to Mercer shows a differential switching circuit for a DAC.

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U.S. Patent 5,343,196 to Harston directs DAC source currents either to an output line or to ground. U.S. Patent 4,958,155 to Gulczynski discloses a DAC having current source calibration. U.S. Patent 4,112,426 to Hofer et al uses bistable circuits in a DAC.

U.S. Patent 2,914,758 to Retzinger uses a plurality of bistable members in a DAC

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick G. Wamsley whose telephone number is (571) 272-1814. The official facsimile number is (703) 872-9306. An alternate facsimile number, (571) 273-1814, should only be used for unofficial documents.



Patrick G. Wamsley

April 25, 2005